

Claims

1. A hinge structure for a flat visual display device comprising:
a fixed plate and pivotal plates respectively fastened to the flat visual display
5 device and a supporting portion for straightening the flat visual display device;
rotation shafts with first ends placed in the side of said fixed plate and second
ends placed in the side of said pivotal plates, said first or second ends being fixed to
allow relative rotational movement between said fixed and pivotal plates;
braking members provided around said rotation shafts for applying braking
10 force; and
braking housings provided around said braking members and with first fixed
ends opposite to the fixed ends of said rotation shaft for applying braking force to faces
contacting with said braking members.
- 15 2. The hinge structure according to claim 1, wherein said pivotal plates are
provided at both ends of said fixed plate.
3. The hinge structure according to claim 1, further comprising:
non-circular fixing portions each provided in the pivotal side at one end of each
20 of said rotation shafts facing each of said pivotal plates for fixing said each rotation
shaft to said each pivotal plate, and
non-circular shaft-supporting portions each provided in said each pivotal plates
for insertionally receiving said each fixing portion in the pivotal side.
- 25 4. The hinge structure according to claim 1, wherein each of said braking
housings further includes a stopper guide radially extended from one end of said each
braking housing for fixing said each braking housing to said fixed plate.
- 30 5. The hinge structure according to claim 1, wherein each of said braking
housings is inserted and extended by one side into a vertical plane of said fixed plate to
form a stopper guide fastened to said vertical plane via riveting.
- 35 6. The hinge structure according to claim 1, further comprising a washer in
the contact faces between each of said rotation shafts and each of pivotal plates to
restrict noise and abrasion.

7. The hinge structure according to claim 1, wherein said braking members are made of engineering plastic.

5 8. A hinge structure for a flat visual display device comprising:
a pivotal plate and fixed plates respectively fastened to the flat visual display device and a supporting portion for straightening the flat visual display device;
rotation shafts with first ends placed in the side of said fixed plate and second ends placed in the side of said pivotal plates, said first or second ends being fixed to
10 allow relative rotational movement between said fixed and pivotal plates;

braking members provided around said rotation shafts for applying braking force; and

braking housings provided around said braking members and with first fixed ends opposite to the fixed ends of said rotation shaft for performing relative movement
15 in respect to said rotation shafts to apply braking force to faces contacting with said braking member;

stopper guides each integrally provided in one side of each of said braking housings and having a projection-receiving groove in the outer circumference; and

20 stoppers each having a folded stopper projection for being inserted into each of said stopper guides, each of said stoppers being fitted around the end of each of said rotation shafts at one side of said each stopper guide for restricting the angle of relative rotation between said each rotation shaft and each of said braking housings.

9. The hinge structure according to claim 8, wherein each of said rotation
25 shafts is fixed to each of said pivotal plates.

10. The hinge structure according to claim 8, further comprising washers provided in the contact faces between said stopper guides and said stoppers.

30 11. The hinge structure according to claim 8, further comprising:
fixing portions each provided around each of said rotation shafts in the fixing side, around which each of said stoppers is fitted, for allowing said each stopper to identically operate with said each rotation shaft; and

shaft-supporting portions each identically configured with each of said fixing
35 portions in the fixing side for allowing said each stopper to be fitted around said each

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fixing portion and identically rotate with said each rotation shaft.

12. The hinge structure according to claim 8, further comprising:
fixing ends each axially extended from one end of each of said rotation shafts
5 around which each of said stoppers is fitted; and
anti-release members each fitted around said each of fixing ends for stably
supporting the position of said each stopper.

13. The hinge structure according to claim 12, wherein each of said
10 anti-release members has a hole into which said each fixing end is inserted and at least
two folded faces which are folded in an orientation of inserting said each fixing end.

14. The hinge structure according to claim 8, wherein said projection
receiving groove is positioned in a pivoting range of the flat visual display device.
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15. The hinge structure according to claim 8, wherein said braking members
are made of engineering plastic.

16. The hinge structure according to claim 8, wherein said braking housings
20 are respectively fastened to vertical fixing planes of said fixed plate.

17. The hinge structure according to claim 8,
wherein each of said stopper guides has at least two first housing-fixing holes;
wherein said fixed plate has second housing-fixing holes aligned in line with
25 said first housing-fixing holes; and
housing-fastening means for being inserted into said first and second
housing-fixing holes for fastening said braking housings to said fixed plate.

18. A hinge structure for a flat visual display device comprising:
30 a fixed plate and a pair of pivotal plates respectively fastened to a supporting
portion and the flat visual display device;

a pair of rotation shafts each provided between said fixed plate and said pivotal
plates and having a first fixed end for allowing rotation of said pivotal plates;

a pair of braking members each provided around each of said rotation shafts;
35 and

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a pair of braking housings each provided around each of said rotation shafts,
wherein said braking members and braking housings are fixed at one sides
opposite to said fixed ends of the rotation shafts for generating braking force when said
pivotal plates are pivoted.

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19. The hinge structure according to claim 18, wherein said fixed ends of the
rotation shafts are riveted into a non-circular shape.